

**DOCKET NO.: PSU-0020 (99-2205 US)**  
**Application No.: 09/821,839**  
**Office Action Dated: April 25, 2003**

**PATENT**  
**REPLY FILED UNDER EXPEDITED**  
**PROCEDURE PURSUANT TO**  
**37 CFR § 1.116**

**Amendments to the Specification:**

At page 1, lines 20-32, please amend the paragraph as shown below.

-- Meiosis is essential for eukaryotic sexual reproduction, halving the number of chromosomes into four products. This halving requires that homologous chromosomes (homologs) interact properly during prophase I and remain attached at metaphase I. Classical cytology in plants and animals, and molecular genetics and molecular cytology in yeast, *Drosophila*, *C. elegans*, and other organisms, has led to the current understanding of the interaction between homologs during prophase I. In particular, it is universal that homologs are attached until the onset of anaphase anaphase I. The maintenance of homolog attachment is thought to require both meiotic recombination and sister chromatid cohesion. In yeast, the sister-chromatid cohesin is required for normal meiosis I, and the removal of cohesin is necessary for homolog and sister chromatid separation at meiosis I and II, respectively. In recent years, several *Arabidopsis* mutations affecting meiosis have been isolated. However, all of these reported mutants are still fertile enough to be maintained as homozygotes.--

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At page 2, lines 8-12, please amend the paragraph as set forth below.

--Provided in the present invention is a novel gene (referred to herein as *SDS*), which is associated with regulation of meiosis in plants. The invention further provides transgenic plants and mutants that exhibit abnormal homolog interaction during meiosis. The SDS gene or its corresponding protein has not previously been described in plants.--